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My preferred pronoun is she: Understanding transgender identity and oral health care needs

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WHY THIS ARTICLE IS IMPORTANT TO DENTAL HYGIENISTS

- Oral health care providers are responsible for ensuring that all clients receive care that aligns with their needs.
- The oral health of transgender clients may be negatively affected by stress, discrimination, substance use, STDs, and hormone therapy.
- Knowledge of the experiences and health challenges of transgender persons will encourage the delivery of culturally competent care.

ABSTRACT

Objective: This literature review summarizes current research and evidence regarding transgender persons and oral health. **Methods**: A search of the literature was conducted in the following databases: PubMed, Google Scholar, EBSCO Host, Science Direct, and Wiley Online Library using the keywords "transgender identity, gender non-conforming, discrimination, transition, binary systems, transgender oral cavity, transgender, transgender oral health, transgender dental health." Articles published from 2000 to 2017 in both peer-reviewed and non-peer reviewed journals, which reported information regarding the oral health status of transgender populations, were selected for review. **Results:** The search revealed 18 articles, only 3 of which pertained to the oral health status of transgender client populations. Five other articles were eliminated due to either poor quality or irrelevance. **Discussion:** The 13 articles included in the review revealed a need for oral health care professionals to be aware that gender is not binary, nor is it a mental health disorder. Transgender people face heightened risk of discrimination, violence, anxiety, depression, suicidality, substance abuse, and sexually transmitted diseases, as well as significant barriers to health care of which oral health professionals should be made aware. **Conclusions:** Transgender people have the same rights as everyone else to oral health care. Oral health care providers are responsible for ensuring that transgender clients receive care that aligns with their needs and for providing that care in a culturally competent manner. This requires an understanding of the basics of gender nonconformance and its impact on oral–systemic health. Additional research is needed to increase the scientific knowledge base to facilitate improved health outcomes for this client population.

RÉSUMÉ

Objectif : Cette analyse documentaire résume la recherche actuelle et les données probantes à l'égard des personnes transgenres et la santé buccodentaire. **Méthodologie :** Une recherche documentaire a été menée dans les bases de données suivantes : PubMed, Google Scholar, EBSCO Host, Science Direct et Wiley Online Library au moyen des mots clés anglais « *transgender identity* (identité transgenre), *gender non-conforming* (genre non conforme), *discrimination* (discrimination), *transition* (transition), *binary systems* (systèmes binaires), *transgender oral cavity* (cavité buccale du transgenre), *transgender* (transgenre), *transgender oral health* (santé buccodentaire du transgenre), *transgender dental health* (santé dentaire du transgenre) ». Des articles de journaux, publiés de 2000 à 2017 dans des journaux évalués par les pairs et non évalués par les pairs, qui ont fourni de l'information sur l'état de santé buccodentaire des populations transgenres, ont été sélectionnés pour être évalués. **Résultats :** La recherche a montré que sur les 18 articles retenus, seulement 3 se rapportaient à l'état de santé buccodentaire des populations de clients transgenres. Cinq autres articles ont été éliminés en raison de leur mauvaise qualité ou de leur manque de pertinence. **Discussion :** Les 13 articles qui ont fait partie de l'évaluation ont révélé le besoin de sensibiliser les professionnels de la santé buccodentaire au fait que le genre n'est ni binaire ni un trouble de la santé mentale. Les transgenres font face à un risque plus élevé de discrimination, de violence, d'anxiété, de dépression, de tendances suicidaires, d'abus de substances et de maladies transmises sexuellement, ainsi qu'à d'importantes barrières aux soins de santé, pour lesquels les professionnels de la santé buccodentaire devraient être sensibilisés. **Conclusions :** Les personnes transgenres ont les mêmes droits aux soins de santé buccodentaire que les autres. Les prestataires de soins de santé buccodentaire sont responsables de veiller à ce que les clients transgenres reçoivent des soins qui s'alignent avec leurs besoins et de fournir ces soins d'une façon culturellement compétente. Cela exige une compréhension des notions fondamentales sur la non-conformité du genre et de ses effets sur la santé buccodentaire et physique. De la recherche supplémentaire est nécessaire afin d'augmenter la base de connaissances scientifiques et de favoriser l'amélioration des résultats de santé de cette population de clients.

Keywords: binary systems, discrimination, gender nonconforming, transgender, transgender dental health, transgender identity, transgender oral cavity, transgender oral health, transition

CDHA Research Agenda category: access to care and unmet needs

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INTRODUCTION

There are approximately 1.4 million transgender adults in the United States, representing 0.6% of the population. They are a very diverse group, with 55% identifying as Causcasian, 16% as African-American or Black, 21% as Latino or Hispanic, and 8% as another race or ethnicity.[1,2] This diversity reflects that of the general population as reported by the US Census: 60% identify as white, 13% as African-American or Black, 18% as Hispanic, and 2% as another race or ethnicity.[3] Conversations about civil rights often fail to include people who identify as transgender or gender nonconforming. Binary systems are often used when thinking about categories like sex, gender, and sexual orientation, meaning that there are 2 dichotomous categories for each. Transgender people fall into a third category; their "gender identity and/or gender role [does] not conform to what is typically associated with their sex assigned at birth."[4]

Although most oral health professionals have probably met a transgender person, they may remain oblivious to understanding who these people are, what issues they face, and how oral health care providers can support or deliver much needed health services in a respectful and intelligent manner. Oral health professionals have a responsibility to render nonbiased, nonprejudicial care to all of their clients and must therefore have a thorough understanding of the needs and concerns of all population groups including transgender individuals. The purpose of this narrative review is to examine the most current evidence on the care of transgender individuals along with their general and oral health needs.

METHODS

A search of the literature was conducted in the following databases: PubMed, Google Scholar, EBSCO Host, Science Direct, and Wiley Online Library using the keywords "transgender identity, gender non-conforming, discrimination, transition, binary systems, transgender oral cavity, transgender, transgender oral health, transgender dental health." Articles published from 2000 to 2017 in both peer-reviewed and non-peer reviewed journals, which reported information regarding the oral health status of transgender populations, were selected for review.

RESULTS

The search produced a total of 18 articles, 7 of which pertained to the oral health of transgender client populations. Of these 7 articles, two were related to transgender oral health status/treatment and were published in peer-reviewed journals.[1,5] An article related to transgender oral health status/treatment was also found in a non-peer reviewed dental hygiene publication.[6] Additionally, 5 manuscripts were related to the education (or, more accurately, lack of education) of students in dental and dental hygiene programs on the topic of transgender clients. However, only 3 provided information pertinent to this review.[7-9] One manuscript discussed the education being offered to students at medical schools regarding transgender health, while another discussed the experience of dental fear in transgender populations.[10,11] Two articles on eunuchs in India were found but were not included in this review because of poor study design. Data and information pertaining to the effects of stress on the periodontium, prevalence and treatment of sexually transmitted diseases, and disparities in health care availability for this population group were extrapolated from numerous peer-reviewed journals, US government publications, and the World Health Organization website in order to paint a picture of the health (including oral health) challenges that transgender populations face.

The literature revealed that oral health care professionals need to be aware that: 1) gender is not binary; 2) identifying oneself as transgender is not a mental health disorder; and 3) transgender people face heightened risk of discrimination, violence, anxiety, depression, suicidality, substance abuse, and sexually transmitted diseases. In addition, transgender people face significant barriers to health care, including oral health care, because of their gender nonconformance. Among those barriers are the biases of health care providers. Stigmatizing these individuals could create undue stress that may affect the oral cavity. Oral health care providers should also learn about the basics of hormone therapy, which can be feminizing or masculinizing, in order to better understand the experiences of their transgender clients.

DISCUSSION

Defining transgender often necessitates reviewing the meaning of the terms sex and gender.[12] Binary systems tend to be used when thinking about categories like sex, gender, and sexual orientation, meaning that there are 2 dichotomous categories for each. Sex is anatomical and biological, based on internal and external sex organs, chromosomes, and sex hormones.[4] The binary categories for sex are male and female. Individuals born with mixed sex organism hormones and chromosomes are referred to as intersexual.[4] These individuals represent a third category of sex that is not always recognized in North America. Gender is both psychological and social. It is a social construct; the population creates the psychological and social categories that align with genders.[4]

Gender identity is psychological and refers to a person's inherent sense of being a man or woman.[4] The binary categories for gender identity are man or woman. A third category would be genderqueer or transgender.[4] According to the American Psychological Association, people in this third gender identity category "may think of themselves as both man and woman (bigender, pangender, androgyne); neither man nor woman (genderless, gender neutral, neutrois, agender); moving between genders (genderfluid); or embodying a third gender."[4]

There is a difference between transgender people and

Table 1. Lesbian, gay, bisexual, transgender, and queer terminology and definitions

Term	Definition
Sex	Anatomical and biological, based on internal and external sex organs, chromosomes, and sex hormones
Intersexual individuals	Born with mixed sex organism hormones and chromosomes
Gender	Psychological and social; it is a social construction
Gender identity	Psychological; refers to a person's inherent sense of being a man or woman
Transsexual	One who has changed their physical body or wants to change their physical body to conform with a gender identity that does not match their sex
Gender nonconforming (GNC)	One whose gender expression or gender identity differs from norms corresponding to their assigned birth sex
TGNC	One who is transgender or gender nonconforming
Genderqueer or transgender	A third category of gender identity
Intersexual	A third category of sex that is not recognized in the United States
Gender dysphoria	An underlying and incessant anxiety created when an individual's expressed or experienced gender is different from the one that was assigned to the person at birth

transsexual people. Transsexual people have changed their physical body or want to change their physical body to conform with a gender identity that does not match their sex. Transsexuals may have surgery and/or use hormones to effect these physical changes.[4] Psychologists now understand that gender is not a binary construct. Because it is non-binary, there may be a range of gender identities and gender identity may not correspond to the sex of a person.[4] Someone who does not fit into the typical binary systems may present with anger or confusion.

The American Psychological Association uses the term gender nonconforming (GNC) to denote people whose gender expression or gender identity differs from norms corresponding to their assigned birth sex.[4] In addition, the abbreviation TGNC is used to refer to people who are transgender or gender nonconforming.[4] Psychologists have recognized that stigma, prejudice, discrimination and, often, violence affect the health and well-being of TGNC people.[4] Prejudicial attitudes may lead to the devaluing, dislike, and hatred of people whose gender identity and/or gender expression do not conform to their sex assigned at birth. Negative attitudes towards transgender individuals have been positively associated with males, religiosity, frequency of attendance at religious services, political designation, gender, and sexual prejudice.[13,14] The factors negatively correlated with transprejudice are less knowledge about trans people, taking a human sexuality or gender course, and little contact with trans people.[15]

Discrimination includes behaviours such as assuming a person's assigned sex at birth is fully aligned with that person's gender identity, not using a person's preferred name or pronoun, asking TGNC people inappropriate questions about their bodies, and making the assumption that psychopathology exists given a specific gender identity or gender expression.[4] TGNC people who hold multiple marginalized identities are more vulnerable to discrimination and violence. TGNC women and people of colour disproportionately experience severe forms of violence and discrimination, including police violence, and are less likely to receive help from law enforcement.[4]

Two other concepts are important when discussing negative attitudes towards transgender persons: internalized transphobia and transmisogyny. Internalized transphobia occurs when TGNC people hold these negative attitudes about themselves and their gender identity. Transmisogyny refers to a simultaneous experience of sexism and anti-trans prejudice directed specifically towards transwomen. Some people believe that trans people have a mental disorder, however the American Psychiatric Association would disagree. Psychiatrists have adopted the term gender dysphoria as a diagnosis characterized by "a marked incongruence between" a person's gender assigned at birth and gender identity.[16] This diagnosis replaced the diagnosis of gender identity disorder (GID) in the *Diagnostic and Statistical Manual of Mental Disorders (DSM) V*.[16] Having a transgender identity is not a mental illness; how one adapts to that identity is more important in the eyes of psychologists and psychiatrists. A summary of these various terms and their definitions is found in Table 1.

Health status and concerns

Literature on the oral health status of transgender client populations exists but is scanty.[5,7-9] In contrast, in the medical domain there exists a large amount of information on the experiences and health status of transgender patient populations. Recognizing that health care providers have not historically received training in lesbian, gay, bisexual, transgender, queer (LGBTQ) issues during medical school and/or residencies, medical researchers are embarking on

projects that support and disseminate research regarding LGBTQ health disparities.[10,17-20] Authors have identified consistent themes within the experiences of transgender populations that directly and negatively affect their health.[21-23] These themes include:

- **Stigmatization and discrimination:** Structural (societal norms, environmental conditions, institutional laws and practices, i.e., public accommodation), interpersonal (rejection by one's family and community), and individual (self-orientation, anxiety) experiences of stigmatization have been shown to cause adverse health effects.[21,22]
- **Violence:** Approximately half of transgender persons experience some form of physical assault in their lifetime[21] and report being victims of sexual assault; 84% have reported being verbally harassed due to their gender identity or expression.[21] In all categories of violence, higher rates were reported among people of colour.[22] Oral health professionals should be cognizant of this significantly higher rate of violence and consider screening and referring clients as appropriate.
- **Mental health and substance abuse:** Transgender persons report high levels of anxiety, depression, and suicidality; 41% of transgender persons report attempting suicide compared with 3.7% of the general population.[22,23] The incidence of suicide attempts is directly associated with transgender people being more likely to participate in risky behaviour, such as sex work and/or drug and/or alcohol abuse.[4,20-22] Baghaie et al. report a higher rate of dental caries and periodontal disease among those with substance abuse disorders than among the general population.[24] More research is necessary in order to understand the impact of substance use on oral health in the transgender client.
- **Access to adequate health care:** Transgender persons report barriers in accessing health care such as lack of health insurance, denials of claims due to being transgender, and cost. High rates of unemployment further exacerbate difficulties in obtaining health insurance.[20-23] However, the most often cited barrier to accessing health care is related to providers' lack of knowledge and/or bias against transgender persons.[20-22] Low-income and transgender people of colour report a higher frequency of discrimination when accessing adequate health care.[20-22]

Stress

The devastating frequency of discrimination in every aspect of life accounts for the high levels of stress experienced by transgender populations. Some degree of inflammation is natural, part of a complex response to harmful agents known as stressors, which is designed to repair cell injury and speed healing. Too much cellular inflammation, however, leads to detrimental tissue damage and contributes to a variety of conditions such asthma, rheumatoid arthritis, Alzheimer's disease, Crohn's disease, chronic pain, obesity, attention deficit hyperactivity disorder, migraines, heart disease, and periodontal disease.[25-28]

The American Academy of Periodontology (AAP) has long acknowledged stress as a risk factor for periodontal disease.[29] Stress can also affect the oral cavity by increasing the risk of aphthous stomatitis,[30] HSV2,[31] bruxism,[32] and temporomandibular/myofacial pain.[33]

Nearly half of all individuals who identify as transgender experience depression or some iteration of an anxiety disorder as a response to the discrimination, stigma, lack of acceptance, and abuse they face regularly.[34] Heima et al. found that transgender populations experience dental fear as a result of experiences of discrimination and maltreatment in dental care settings.[11]

Stress also has a secondary negative effect. Stigma, for example, forces ostracized individuals to avoid social encounters, shy away from health care professionals, and depend on addictive substances to help manage their anxiety and aloneness. Engaging in risk-taking behaviours, such as unsafe sex, is also an effect of stress among this client population, which contributes to negative health outcomes.[35]

Sexually transmitted diseases

Risky sexual behaviours, such as having unprotected anal intercourse, having multiple partners, and engaging in sex work, account for the high incidence of sexually transmitted infections (STI) seen in transgender populations.[35,36] Unsafe needle practice involving injection of hormones and substances such as silicone to alter facial features and a high rate of illegal substance abuse also increase the risk of contracting a STI.[36] Certain STIs, such as gonorrhea, exhibit oral manifestations which the oral health care professional should identify. Often, the client may be unaware of the presence of an STI, which increases the chances of infecting others and prevents the client from receiving necessary care and/or medication.

Transgender people comprise approximately 1% of all individuals with newly diagnosed human immunodeficiency virus (HIV) infections. The National HIV Surveillance System gathered data regarding HIV incidence in transgender populations from 45 states and the District of Columbia. Of 2,351 transgender people who were newly diagnosed with HIV in the years 2009 through 2014, 84% were transgender women (male to female), 15.4% were transgender men (female to male) and 0.7% listed a different gender identity (queer, bi-gender).[36] Black or African-American transgender women have a higher percentage of confirmed HIV infection (56.3%) compared to whites (16.7%) and Hispanics or Latinos (16.1%).[36] Toibaro et al. reported a 43% prevalence of syphilis in their 2008 study of 105 transgender people.[37] No data regarding

Table 2. Oral lesions seen in HIV infection

Lesion	Presentation/other	Treatment
Oral candidiasis	Whitened, curd-like lesions that easily wipe off; most common oral lesion in HIV+ clients	Topical antifungal medications (nystatin, imidazoles)
Kaposi's sarcoma	Singular or numerous purple, red or brown blotches on the skin or mouth; a cancer that develops from the cells lining lymph or blood vessels	Medical intervention (chemotherapy and HAART) only, not treated by dental professionals
Aphthous ulcer	Singular or multiple painful, round ulcerations	Topical corticosteroids, antibiotics, antifungal medications; laser ablation
Linear gingival erythema (gingivitis in HIV+ clients)	Bright red gingival margin up to 4 mm wide	Possibly due to candida dubliniensis and, therefore, treatable with antifungal medications; HAART; oral health instruction
Periodontitis (necrotizing ulcerative periodontitis/necrotizing gingivostomatitis)	Etiology is aerobic and anaerobic bacteria	Scale and root planing procedures; HAART
Oral hairy leukoplakia	Asymptomatic; whitened mucosa on lateral borders of tongue with projection of filiform papillae which appear as "thick hairs"	Cryotherapy ablation, antiviral medication

prevalence of other STIs in transgender populations were located in this search.

With the evolution of highly active antiretroviral therapy (HAART), HIV-positive persons receiving treatment and living a healthy lifestyle can expect similar lifespans to those who are not HIV positive. However, oral manifestations are common in people with HIV infection. A brief review of these lesions and their treatment is provided in Table 2. However, because a few of these lesions are classified as "strong indicators for the presence of HIV infection,"[38] readers are encouraged to update their knowledge of these lesions and HIV infection.

Data on human papillomavirus and herpes simplex virus are not routinely reported to the Centers for Disease Control and Prevention (CDC). However, in 2015 among the general population there were 1,526,658 cases of chlamydia reported, 395,216 cases of gonorrhea reported, and 23,872 cases of syphilis (primary and secondary) reported.[39]

This was the second year in a row in which increases were seen in all 3 of these infections. Gonorrhea is particularly troublesome as recent studies have noted the development of bacterial resistance to the antibiotics normally used to treat it.[40]

Medications

Hormone therapy

Doctors utilize hormone therapy in order to feminize or masculinize physical features. The World Professional Association for Transgender Health (WPATH) recommends that the following criteria be met prior to initiation of hormone therapy[41]:

- Persistent, well-documented gender dysphoria
- Capacity to make a fully informed decision and to consent for treatment
- Age of majority in a given country (if younger, follow the Standards of Care outlined in section VI)
- If significant medical or mental health concerns are present, they must be reasonably well controlled.

Feminizing hormone therapy has a dual goal—to encourage the presentation of female secondary sex characteristics (breast development, redistribution of fat, changes in emotional and social behavior, and decreased libido) and discourage the presentation of male secondary sex characteristics (reduction of body mass and body hair except the scalp hair, reduction in perspiration and body odour, deepened voice, reduction of erectile function/sperm/ejaculatory fluid/testicular size).[42-44] The hormone therapy used to elicit these changes combines estrogen (the primary female sex hormone responsible for the production of female secondary sex characteristics) with an androgen blocker (to counteract the effects of androgens, the male sex hormones, testosterone and dihydrotestosterone) and sometimes a progestogen (plays a role in breast development, enhances libido, and skin elasticity, among others).[45] However, the use of progestogens is based on anecdotal evidence (both from transgender women and providers) and not from scientific evidence derived from well-designed studies.[42,43] The most frequently used androgen blocker in the United States is spironolactone; cyproterone acetate is most frequently used in Europe.[45] The primary class of estrogen used is 17-beta estradiol (often shortened to estradiol), which may be administered orally, intramuscularly or via the transdermal route.

Masculinizing hormone therapy develops male secondary sex characteristics and suppresses/minimizes female secondary sex characteristics, and is achieved through the use of several forms of parenteral testosterone. Table 3 summarizes feminizing and masculinizing hormone therapy medications.

Table 3. Feminizing and masculinizing hormone therapies

Hormone therapy	Route
Female	
Estradiol/estradiol valerate (estrogen)	Oral or sublingual
Estradiol valerate (estrogen)	Intramuscular
Estradiol cypionate (estrogen)	Intramuscular
Estradiol gel (estrogen)	Topical
Estradiol patch (estrogen)	Transdermal
Spironolactone (androgen blocker)	Oral
Finasteride (androgen blocker)	Oral
Dutasteride (androgen blocker)	Oral
Cyproterone acetate (androgen blocker)	Oral
Goreselin (GnRH agonist)	Subcutaneous
Leuprolide acetate (androgen blocker)	Intramuscular
Male	
Testosterone undecanoate	Oral
Testosterone enanthate, cypionate	Subcutaneous, intramuscular
Testopel	Implant
Testosterone gel, patch, cream	Transdermal

A comprehensive discussion of the specific risks and side effects of these agents is beyond the scope of this article, but the reader is encouraged to refer to the reference list for more sources of information on hormone therapy. Psychologically speaking, there is some low-quality evidence to suggest that feminizing and masculinizing hormone therapy improves gender dysphoria.[21]

Hormone levels in non-transgender people are used as reference ranges but are not absolute. The Standards of Care for the Health of Transsexual, Transgender, and Gender Nonconforming People, Seventh Version (SOC7) created by WPATH "allows physicians to tailor their practices based on individual patient issues, special physician skills or knowledge, cultural variations, lack of resources, and the need for harm reduction strategies."[41] How soon physical changes are seen depends on the dose, route of administration, medications used, and medical risk profile, but changes are generally accomplished within 2 years of initiation of hormone therapy.[42] Therefore, client goals dictate titration levels and providers will increase estrogen and antiandrogens while monitoring hormone and safety levels (e.g., risk factors such as smoking which, in combination with estrogen therapy, is associated with an increased risk of venous thromboembolism, hyperkalemia, and renal function). Once the client has achieved the desired result, hormone levels are monitored yearly.

Research has shown that changes in the periodontal condition might be associated with variations in hormones. The AAP recognizes this effect and included the following in their 1999 periodontal classification system: puberty-associated gingivitis, menstrual cycle-associated gingivitis, and pregnancy-associated gingivitis.[46] In 2017 the AAP, in partnership with the European Federation of Periodontology, convened a group of experts to examine the most recent science regarding periodontal diseases. The group, known as the World Workshop on the Classification of Periodontal and Peri-implant Diseases and Conditions, has recently issued a new classification scheme for periodontal and peri-implant diseases in which the effects of sex steroids on the periodontium is listed as a "potential modifying factor of plaque-induced gingivitis."[47]

The changes caused by estrogen and progesterone include increased bleeding, inflammation, erythema, and slight increased tooth mobility.[48] Estrogen deficiency is known to be positively correlated with osteoporosis in women.[48]Testosterone has a positive effect on bone metabolism, inhibits prostaglandin secretion, reduces interleukin 6 production (a cytokine), and enhances the work of fibroblasts and osteoblasts.[48]

CONCLUSION

This review provides a brief introduction to the challenges and health care needs of transgender persons. Health, as defined by the World Health Organization, is one of the fundamental rights of every human being and "is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."[49] Devastating levels of discrimination are experienced by transgender populations and contribute to myriad health issues, not the least of which is mental health. Due to the limited amount of literature on the oral health status of transgender populations, it may be difficult for dental hygienists to provide culturally competent care. As Ludwig and Morrison have stated, "We cannot provide evidence-based dental care to a subset of the population, if that population has yet to be studied."[1] We hope this review inspires others in the profession to pursue original research in this field.

CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

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